

Teaching Methods used in GME

Method	Domain	Type of use	Limitations	Strengths
Written Exercises				
Multiple-choice questions in either single-best answer or extended matching format	Knowledge, ability to solve problems	Summative assessments within courses or clerkships; national in-service, licensing, and certification examinations	Difficult to write, especially in certain content areas; can result in cueing; can seem artificial and removed from real situations	Can assess many content areas in relatively little time, have high reliability, can be graded by computer
Key-feature and script-concordance questions	Clinical reasoning, problem-solving ability, ability to apply knowledge	National licensing and certification examination	Not yet proven to transfer to real life situations that require clinical reasoning	Assess clinical problem-solving ability, avoid cueing, can be graded by computer
Short answer questions	Ability to interpret diagnostic tests, problem-solving ability, clinical reasoning skills	Summative and formative assessments in courses and clerkships	Reliability dependent on training of graders	Avoid cueing, assess interpretation and problem-solving ability
Structured essays	Synthesis of information, interpretation of medical literature	Preclinical courses, limited use in clerkships	Time-consuming to grade, must work to establish interrater reliability, long testing time required to encompass a variety of domains	Avoid cueing, use higher-order cognitive processes
Assessments by supervising clinicians				
Global ratings with comments at end of rotation	Clinical skills, communication, teamwork, presentation skills, organization, work habits	Global summative and sometimes formative assessments in clinical rotations	Often based on second-hand reports and case presentations rather than on direct observation, subjective	Use of multiple independent raters can overcome some variability due to subjectivity

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Structured direct observation with checklists for ratings (e.g., mini-clinical-exercise or video review)	Communication skills, clinical skills	Limited use in clerkships and residencies, a few board certifications	Selective rather than habitual behaviors observed, relatively time-consuming	Feedback provided by credible experts
Oral examinations	Knowledge, clinical reasoning	Limited use in clerkships and comprehensive medical school assessments, some board certification examinations	Subjective, sex and race bias has been reported, time-consuming, require training of examiners, summative assessments need two or more examiners	Feedback provided by credible experts
Clinical simulations				
Standardized patients and objective structured clinical examinations	Some clinical skills, interpersonal behavior, communications skills	Formative and summative assessments in courses, clerkships, medical schools, national licensure examinations, board certification in Canada	Timing and setting may seem artificial, require suspension of disbelief, checklists may penalize examinees who use shortcuts, expensive	Tailored to educational goals; reliable, consistent case presentations and ratings; can be observed by faculty or standardized patients; realistic
Incognito standardized patients	Actual practice habits	Primarily used in research; some courses, clerkships, and residencies use for formative feedback	Requires prior consent, logistically challenging, expensive	Very realistic, most accurate way of assessing clinician's behavior
High-technology simulations	Procedural skills, teamwork, simulated clinical dilemmas	Formative and some summative assessment	Timing and setting may seem artificial, require suspension of disbelief, checklists may penalize examinees who use shortcuts, expensive	Tailored to educational goals, can be observed by faculty, often realistic and credible
Multisource ("360-degree") assessments				

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Peer assessments	Professional demeanor, work habits, interpersonal behavior, teamwork	Formative feedback in courses and comprehensive medical school assessments, formative assessment for board recertifications	Confidentiality, anonymity, and trainee buy-in essential	Ratings encompass habitual behaviors, credible source correlates with future academic and clinical performance
Patient assessments	Ability to gain patients' trust; patient satisfaction, communications skills	Formative and summative, board recertification, use by insurers to determine bonuses	Provide global impressions rather than analysis of special behaviors, ratings generally high with little variability	Credible source of assessment
Self-assessments	Knowledge, skills, attitudes, beliefs, behaviors	Formative	Do not accurately describe actual behavior unless training and feedback provided	Foster reflection and development of learning plans
Portfolios	All aspects of competence especially appropriate for practice-based learning and improvement and systems-based practice	Formative and summative uses across curriculum and within clerkships and residency programs, used by some U.K. medical schools and specialty boards	Learner selects best case material, time-consuming to prepare and review	Display projects for review, foster reflection and development of learning plans